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TITLE: PRETREATMENT OF ANALYTICAL SAMPLE BY COMBUSTION PIPE

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ABSTRACT:

PROBLEM TO BE SOLVED: To enhance analyzing efficiency by automating pretreatment forming a sample soln. by pyrolysis.

SOLUTION: A vertical quartz combustion pipe 1 is divided into an upper combustion part 2 and a lower combustion gas collection part 6. Oxygen supplied by the combustion of a sample forms a spiral gas stream rotating at a high speed along the inner wall of the high temp. combustion part from a jet nozzle 7. A sample capsule falls along with this oxygen to emit intense heat to be burnt and combustion gas is introduced into the collection part 6 of which the exhaust system is closed under pressure. After cooling, an absorbing soln. sprayed from the upper part of the collection part is accumulated in the lower part of the collection part to enter a jet pipe from a discharge conduit 9 by the pressure in the combustion pipe. The absorbing soln. is jetted to an upper reflecting surface of the jet nozzle 7 provided to the lower part of the collection part by the pressurization of this pipe to be scattered and circulating jetting is repeated. The gas-liquid mixing by this scattering and shaking effect by jetting and an impact accelerate the absorption of combustion gas by the absorbing soln. and the reduction and oxidation by an additive and the absorbing soln. is sent to a measuring system. The same process is performed two or three times and all of the absorbing soln. is set to a definite amt. to perform measurement.

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